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Breastfeeding – Was a Life Line in the Past and Still Is!

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In his famous textbook "The diseases of children and their remedies, Nils Rosén von Rosenstein has 28 chapters, all relating in a practical way to the most common ailments in children and how to deal with them. Typically, Chapter 1 with 14 pages, one of the longest, is "On nurse", i e on breast-feeding, indicating its importance.

Just like WHO now recommends (1), he states that when the child is half a year old "we may begin to give unboiled (sic?) milk in which we have mixed a little rye-biscuite…previously soaked in warm water". And "… in general we indulge a child by sucking till it has gotten all its 16 milk teeth (… i e to about 2 years). In this however, we cannot fix any certain time as a weak child should suck longer than a robust one ". And "…leave off by degrees, beginning with the night meals. When it is to be weaned entirely, a smear of worm-wood may be applied on the nipples". This last advice has only recently been discarded!

Much of what he wrote on breast-feeding refers to what the wet-nurse should observe but this would also apply to the biological mother. She should be "20-30 years, be of a strong constitution, have sufficient to eat… small beer may be drunk at pleasure… but wine, brandy, ale or coffee ought by no means be given to her".

Rosén was a master to observe and draw (the right!) conclusions. An example. A child (cared for by a healthy wet-nurse) thrived well while in town but when sent to the country side during week-ends it grew weak and sick every Sunday. She maintained that she did not get her ration of brandy for week-ends (as was the custom) – but nevertheless Rosén found out that her fellow servants gave her part of theirs. *I.e.* the child also got alcohol intoxicated through the breast-milk, resulting in temporary failure to thrive!

Rosén, however, seems to have gone wrong in one aspect of breastmilk composition. He writes "…the nurse ought to avoid all commerce of love…the milk by this means will be spoilt and grow salt"…"The married nurse ought to have no connection with her husband"…"if so, she is no longer fit to be a nurse".
Also "…if she can´t contend her anger… she should not suckle the child immediately as it will grow indisposed, get convulsions (sic!) or some other dangerous disease and often loose its life!"

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We may only speculate whether Rosén really had made these observations.

The Chapter on breast-feeding in his textbook has a wealth of relevant notes and is full of practical advice. Much of this could well be used in to-day´s breast-feeding pamphlets.

BREAST-FEEDING IN THE BIBLE AND IN THE KORAN

That breast-feeding is a prerequisite for infant survival has been known since time immemorial. The Bible makes no mention of Jesus being breast-fed but Virgin Mary, his mother, nursing Him at her breast is a popular motive in art. It should be observed, however, that her nipples always look virgin, small and with a minute areola. According to the tradition she was virgin but had been pregnant after all. In art, the areola and the nipple are practically always depicted as "virgin", presumably this gives a more modest impression.

In the Koran is stated very distinctively that ”a mother should breast-feed for 2 full years" but makes an exception, "if the husband does not decide otherwise".

Again this seems to conform well with the present WHO recommendation (although not the last mentioned exception!) (1) :"full breast-feeding for 6 months and thereafter, along with other food, up to 2 years and beyond".

BREAST-FEEDING AND INFANT MORTALITY RATE (IMR)

Abandoned infants admitted in orphanages had little chance to survive. The Spedale delle Innocenti in Florence (presently a UNICEF office) had some 2.500 children admitted in the middle of the 18th century. To give the "innocenti" (infants) a better chance to survive, a small army of wet nurses from the surrounding country side were engaged, coming in daily to breast-feed or deliver excess milk, thus decreasing substantially the infant death rate (personal information, director of Spedale Museum).

The same was seen in Stockholm in the General Orphanage in the 19th century. When doctor T F Berg was appointed head of the orphanage he noted that infants wet - nursed by the cleaners had considerably lower death rate than others. So he employed double the number of them, also to wet-nurse – and achieved even better results (2).

Reports from the regional GPs in Northern Sweden in the early 19th century contain interesting information on the effects of short and long breast-feeding (3).
In some parts of the country breast-feeding was extended to 3-4 years resulting in low fertility – 4-5 children – while women in higher social strata had 8-10 children as they were employing wet-nurses.

Extended breast-feeding to 3-4 years was noted to cause malnutrition – "the children get thin, emaciated, loose appetite and get pale" Only if the mother had syphilis or tuberculosis she was adviced not to breast-feed.

Figure 1. In developing countries the rural population traditionally breast-feed for up to couple of years.

Carl von Linné, Rosén´s famous contemporary, was very negative to mothers who abstained from breast-feeding, particularly to mothers in high social levels but who had a wet- nurse.

In some parts of the Northern Sweden (Västerbotten) he noted that women breast-fed only for a short period – mothers who also had to work outside the home and who had a tough life – and instead were giving cow´s milk, resulting in frequent pregnancies and high infant mortality, in some areas up to 300 o/oo (4).

Experiences from other parts of the world show the same, e g in Ethiopia, the rural population traditionally breast-feed for up to a couple of years (Fig1). In one area, the children were weaned very early and given cow´s milk and sent to the grandmother – the cow´s milk was considered to convey strength. The result was an alarmingly high IMR and an early pregnancy which was the aim. However, the end result was the same as that in other areas with long breast-feeding, the same number of surviving children (5).

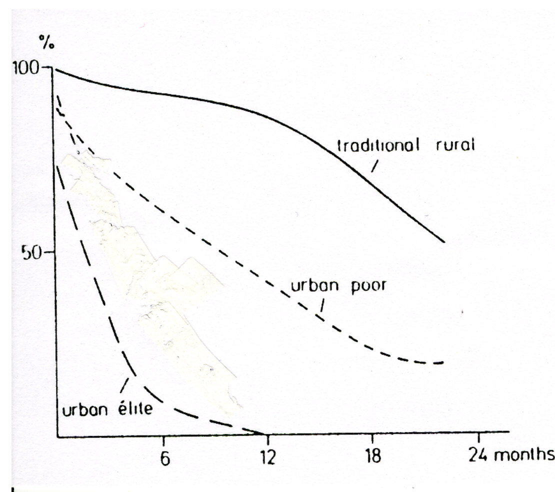

Figure 2. 1 The breast-feeding pattern in developing countries. Smoothed curves from the WHO 9 country study (6)

BREAST-FEEDING IN THE 20TH CENTURY

The relation between short/no breast-feeding and high infant mortality and morbidity in poor environments has thus been well established since centuries. Adverse social situations, lack of knowledge and a temptation to follow the example of those who are better off (and bottle feed!) caused alarming decrease in the breast-feeding rates globally, particularly in urban areas, in the midst of the 20th century.

WHO published in 1981 a 9 country study on contemporary breast-feeding (7 developing and 2 industrialised countries, including Sweden (6). In developing countries the pattern was about the same: urban well educated mothers breast-fed for a short period, rural mother for an extended period and the urban poor mothers fell somewhere in between (Fig 2). A large part of the "urban elite" were gainfully employed with only few weeks´ maternity leave (if any at all!) and would thus have difficulty to breast-feed.

The role of the Baby food industry in this decline has been – and still is – intensely debated. Does the industry promote – often in an aggressive way – the use of "the bottle" or does the industry provide its infant products because there is a need?

In an attempt to regulate this market, WHO in 1981 issued "The international code of marketing of breast-milk substitutes (8), implying *inter alia* that breast milk substitutes to children less than 6 months must not be advertised in any media and that such products must not be provided to maternities for distribution to newly delivered mothers.

This Code brought about a considerable improvement. Most Baby food industries strive to comply with the regulations. However, the temptation is still there to recruit prospective breast - milk substitute users already at maternity by donating samples to staff and mothers.

A number of NGO watchdogs are supervising the compliance with the Code and reporting in international media, thereby trying to restrain violations.

Breast-feeding in Sweden in the 20th century

In the beginning of the 20th century a number of child health centres were established – so called "gouttes de lait" – the first one in Stockholm by dr Moritz Blumenthal, based on a French model. It was mainly in urban areas and meant for (poor) mothers who could not breast-feed. These were now taught good nutrition and hygiene, were small-pox vaccinated and also taught how to prepare cow´s milk formula or were provided with such.

Before the 1940s there was no national recording or reporting of the rate of breast-feeding. The provincial physicians´ reports indicate that breast –feeding was not universal and extended (3). Particularly in the Northern parts of Sweden and in industrialized districts and in the growing cities bottle feeding was practiced particularly by poor and working mothers.

The high IMR in these areas is most certainly to a large extent caused by poor nursing habits. In 1899 the IMR in Stockholm was 150 o/oo, in Gothenburg 128, in industrial Norrköping 215, in Norrbotten 179 o/oo – while in rural Värmland county it was only 75 o/oo.

However, it was not until 1944 that breast-feeding rates started to be recorded on a national basis. Since then this has been an invaluable source of information and internationally unique. It is based on the reports from each Child health centre (n about 2.500) of the children´s breast-feeding at discharge from the maternity, at 2, 4 and 6 months.

Fig 3 shows that by 1945 about 65 % of the children were breast-fed (total and par-

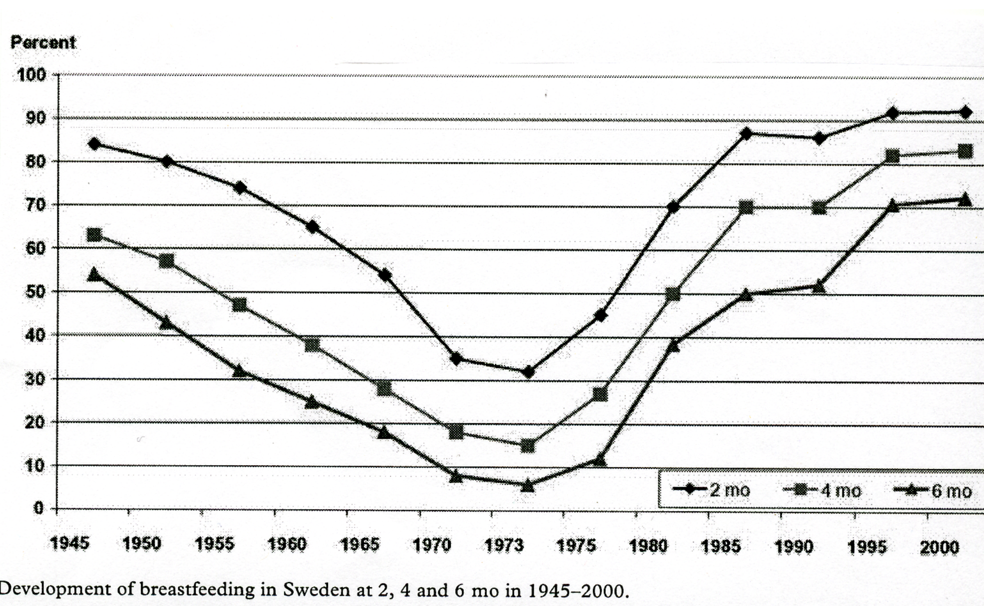

Figure 3. Development of breast-feeding in Sweden at 2, 4 and 6 months during the period 1945-2000. Ref: Official statistics National Board of health and welfare. October 2001.
URL:www.soc.se/eps/amning/amning.htm

tial) at 4 months and 55 % at 6 months. Up to 1975 there was a gradual decline to about 5 % coinciding with an increasing number of women engaged in the working force, an increasing urbanisation and exposure to urban life style – and a lax attitude from the health service as well as pressure from the baby food industry.

A counter reaction came about in 1975, originating mainly from the mothers themselves (coinciding with a similar change of attitude in other countries), later reinforced by "breast-feeding support" groups and by WHO and UNICEF.

Table 1. BFHI – Ten steps to support, encourage and promote breast-feeding

Ten steps to successful breastfeeding:
1) Breastfeeding policy routinely communicated to all staff
2) Train all staff to implement policy
3) Inform all mothers about benefit of breastfeeding
4) Help mothers initiate breastfeeding within ½–2 h
5) Show mothers how to breastfeed
6) Give newborn infants no food or drink other than breast milk unless medically indicated
7) Practise rooming in
8) Encourage breastfeeding on demand
9) Give no artificial teats of pacifiers to breastfeeding infants
10) Foster the establishment of breastfeeding support groups

UNICEF in 1993 initiated the so called Baby Friendly Hospitals Initiative, BFHI, on a global scale involving all countries. The focus was on the maternities where most mothers (and staff!) could be reached and exposed to the ”breast-feeding friendly” attitudes and practices. These have been summarised in “Ten steps to support, encourage and promote breast-feeding” See Table 1.

In Sweden all the 65 maternities have – after due training and external evaluation – become diplomated as “baby friendly” or “breast-feeding friendly” during the period 1993-97.

Later re-evaluation in about 2/3 of the maternities has indicated that still the adherence to the “Ten steps” holds.

A similar campaign focusing on the antenatal care and the Child health centre system is under way.

Table 2. Numer (No) of maternities awarded Baby friendly (BF) status

Region	No BF hospitals	%
West/Central Africa	1955	17
East/South Africa	707	21
MiddleEast/N Africa	838	14
East Asia/Pacific	11289	53
South Asia	1735	24
Americas/Carribean	1533	22
CEE/CIS	750	10
Industrialised countries	435	6
Total 19242		

During the BFHI campaign the 6 months breast-feeding rate increased from about 50 % to the present 73 % implying that Sweden has the highest rate among all industrialised countries.

On a global basis about 30 % of all maternities (about 19.000) have become designated BF, most in East Asia, 53 %, and least in industrialised countries, 6 %, Sweden thus being an exception, Table 2 (9).

A few studies have indicated that the BFHI may raise the initiation rate and also have an effect into the first few weeks. However, more follow up studies are required to assess the effect of BFHI as such. A study in Belarus on 31 maternity hospitals (17.000 mother-infant pairs) half of them providing at least some of the "Ten steps". It appeared that at 3 months 43 % of the mothers from the intervention maternities were exclusively breastfed vs 5 % in the others; and at 6 months 7.9% vs 0.6 %. A significant reduction in the diarrhoea rate was noted (10).

The breast-feeding rate in the USA studied regularly across the continent has slowly increased from about 5 % to about 20 % (at 6 months), however, with large differences relating to ethnic group, maternal age, and educational level (being white, not so young and having high education being favourable factors). And still the BFHI has not been very strong in the US, indicating that a general attitudinal change has taken place in recent decades (11).

For 15 developing countries studies in Latin America, Asia and Africa changes in the characteristics of the population have almost universally pushed breast-feeding duration in a downward direction, although encouraging trends are noted in certain population subgroups (12).

LOOKING FORWARD

We now have a 250 years perspective since the days when Rosén was active. His advice – to give only breast-milk during the first half year and continue thereafter for 1-2 years – is back on track and authorized by WHO (1).

The society to-day certainly is different from that in the midst of the 18th century but at least the Scandinavian countries have such a long maternity leave that it should be possible to follow Rosén´s recommendations. Other countries, now getting morewealthy, ought also to make it a priority to provide a long maternity leave.

That would honour the memory of the great pediatrician Nils Rosén von Rosenstein!

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